A Big Earth Data Platform for Three Poles

**Surface DEM for typical glaciers on the Tibetan Plateau (Version 1.0) (2003)**

1、Description

The DEMs of the typical glaciers on the Tibetan Plateau were provided by the bistatic InSAR method. The data were collected on November 21, 2013. It covered Puruogangri and west Qilian Mountains with a spatial resolution of 10 meters, and an elevation accuracy of 0.8 m which met the requirements of national 1:10 000 topographic mapping. Considering the characteristics of the bistatic InSAR in terms of imaging geometry and phase unwrapping, based on the TanDEM-X bistatic InSAR data, and adopting the improved SAR interference processing method, the surface DEMs of the two typical glaciers above were generated with high resolution and precision. The data set was in GeoTIFF format, and each typical glacial DEM was stored in a folder.
For details of the data, please refer to the Surface DEMs for typical glaciers on the Tibetan Plateau - Data Description.

2、Keywords

Theme：Glacier topography,Digital elevation model,Topography,Glacier(Ice Sheet)
Discipline：Terrestrial Surface,Cryosphere
Places：Tibetan Plateau
Time：2013

3、Data details

1.Scale：250000

2.Projection：

3.Filesize：137.0MB

4.Data format：Geotiff

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：80.0 | - | east：97.0 |
| - | south：33.0 | - |

5、Time frame:2013-12-01 16:00:00+00:00--2013-12-01 16:00:00+00:00

6、Reference method

References to data:

JIANG Liming. Surface DEM for typical glaciers on the Tibetan Plateau (Version 1.0) (2003). A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2700462018

References to articles:

孙亚飞, 江利明, 柳林, 孙永玲, & 汪汉胜. (2016). Tandem-x双站insar地形提取及精度评估. 武汉大学学报(信息科学版), 41(1), 100-105.

Sun, Y.F., Jiang, L.M., Liu, L., Sun, Q., & Hsu, H. (2017). Mapping glacier elevations and their changes in the western qilian mountains, northern tibetan plateau, by bistatic insar. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, PP(99), 1-11.

Sun, Y.F., Jiang, L.M., Sun, Q., Liu, L., Zhang, Z.M., Sun, Y.L., Bai, L., Wang, H.S. (2016). Glacial surface topography and its changes in the Western Qilian Mountains derived from TanDEM-X Bi-Static InSAR. Geoscience & Remote Sensing Symposium. IEEE.

Liu, L., Jiang, L.M., Sun, Y.F., Yi, C.L., Wang, H.S.,...&Jiang, L.M. (2016). Glacier elevation changes (2012-2016) of the Puruogangri Ice Field on the Tibetan Plateau derived from bi-temporal TanDEM-X InSAR data. INTERNATIONAL JOURNAL OF REMOTE SENSING, 37(24), 5687-5707.

Liu, L., Jiang, L.M., Sun, Y.F., Wang, H.S., Yi, C.L.,...&Jiang, L.M. (2016). Morphometric Controls on Glacier Mass Balance of the Puruogangri Ice Field, Central Tibetan Plateau.WATER, 8(11), 496.

7、Supporting project information

现代大地测量及其地学应用的研究
CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

name: JIANG Liming
unit: Institute of Geodesy and Geophysics, Chinese Academy of Sciences
email: jlm@whigg.ac.cn